

an ultraviolet light source located in said reactor, said ultraviolet source illuminating said photocatalyst;

B1 a heater means located in said reactor for drawing air into said reactor by convection and causing said air to rise past said photocatalyst before being expelled.

2. (amended) The device for purifying air of claim 1 further comprising a pair of electrical prongs protruding from said device, said electrical prongs allowing said device to be directly plugged into an electrical outlet.

6. (amended) The device for purifying air of claim 1 further comprising a means for controlling humidity in said reactor.

B2 7. (amended) The device for purifying air of claim 1 further comprising a fibrous mass located in said reactor, said fibrous mass holding said photocatalyst.

B3 10. (amended) A compact device with a base and a top for purifying air that is plugged directly into a wall power outlet comprising a set of power prongs protruding from the device for plugging into the wall outlet, a compartment containing a photocatalyst that is illuminated by an ultraviolet light source, an opening at the base of the device for air to enter, a heater means in the device near this opening for heating air entering

B3
the device and causing this air to rise past the illuminated photocatalyst, the air becoming purified, and an exit port at the top of the device for the purified air to exit.

B4
15. (amended) The compact device of claim 14 further comprising a means for allowing the visible light to escape.

~~14~~
21. (amended) A device for purifying air comprising:

a chimney with a base and top;

a photocatalyst located in said chimney;

B5
an ultraviolet light source located in said chimney, said ultraviolet source illuminating said photocatalyst with ultraviolet light of wavelength shorter than 387 nanometers, said ultraviolet light source also producing visible light;

a heater means located at the base of said chimney for drawing air into said chimney by convection and causing air to rise past said photocatalyst, said air being expelled from the top of said chimney;

a means for allowing said visible light to escape from said chimney.
